

WHAT IS CLAIMED IS:

1. Alkali-free aluminoborosilicate glass having a coefficient of thermal expansion  $\alpha_{20/300}$  of between  $2.8 \times 10^{-5}/K$  and  $3.8 \times 10^{-6}/K$ , which has the following composition (in % by weight, based on oxide) :

|                                |            |
|--------------------------------|------------|
| SiO <sub>2</sub>               | > 58 - 65  |
| B <sub>2</sub> O <sub>3</sub>  | > 6 - 10.5 |
| Al <sub>2</sub> O <sub>3</sub> | > 14 - 25  |
| MgO                            | 0 - < 3    |
| CaO                            | 0 - 9      |
| SrO                            | 0.1 - 1.5  |
| BaO                            | > 5 - 8.5  |
| with SrO + BaO                 | ≤ 8.6      |
| with MgO + CaO + SrO + BaO     | 8 - 18     |
| ZnO                            | 0 - < 2    |

2. Aluminoborosilicate glass according to Claim 1, characterized in that it comprises at least 18% by weight, preferably more than 18% by weight, of Al<sub>2</sub>O<sub>3</sub>.

3. Aluminoborosilicate glass according to Claim 1 or 2, characterized by the following composition (in % by weight, based on oxide) :

|                                |             |
|--------------------------------|-------------|
| SiO <sub>2</sub>               | > 58 - 64.5 |
| B <sub>2</sub> O <sub>3</sub>  | > 6 - 10.5  |
| Al <sub>2</sub> O <sub>3</sub> | > 18 - 24   |
| MgO                            | 0 - < 3     |
| CaO                            | 1 - < 8     |
| SrO                            | 0.1 - 1.5   |
| BaO                            | > 5 - 8     |
| with SrO + BaO                 | < 8.5       |
| with MgO + CaO + SrO + BaO     | 8 - 18      |
| ZnO                            | 0 - < 2     |

4. Aluminoborosilicate glass according to at least one of Claims 1 to 3, characterized in that it comprises at least 20.5% by weight of  $\text{Al}_2\text{O}_3$ .

5. Alkali-free aluminoborosilicate glass having a coefficient of thermal expansion  $\alpha_{20/300}$  of between  $2.8 \times 10^{-6}/\text{K}$  and  $3.6 \times 10^{-6}/\text{K}$ , which has the following composition (in % by weight, based on oxide) :

|  |             |
|--|-------------|
| $\text{SiO}_2$   | > 58 - 64.5 |
| $\text{B}_2\text{O}_3$                                   | > 6 - 10.5  |
| $\text{Al}_2\text{O}_3$                                  | 20.5 - 24   |
| $\text{MgO}$   | 0 - < 3     |
| $\text{CaO}$   | 2.5 - < 8   |
| $\text{SrO}$   | 0.1 - 3.5   |
| $\text{BaO}$   | > 5 - 7.5   |
| with $\text{SrO} + \text{BaO}$                           | $\leq 8.6$  |
| with $\text{MgO} + \text{CaO} + \text{SrO} + \text{BaO}$ | 8 - 18      |
| $\text{ZnO}$   | 0 - < 2     |

6. Aluminoborosilicate glass according to at least one of Claims 1 to 5, characterized in that it comprises at least 21.5% by weight of  $\text{Al}_2\text{O}_3$ .

7. Aluminoborosilicate glass according to at least one of Claims 1 to 6, characterized in that it comprises more than 8% by weight of  $\text{B}_2\text{O}_3$ .

8. Aluminoborosilicate glass according to at least one of Claims 1 to 7, characterized in that it comprises at least 0.1% by weight of  $\text{ZnO}$ .

9. Aluminoborosilicate glass according to at least one of Claims 1 to 8, characterized in that it additionally comprises:

|                                    |       |
|------------------------------------|-------|
| $\text{ZrO}_2$                     | 0 - 2 |
| $\text{TiO}_2$                     | 0 - 2 |
| with $\text{ZrO}_2 + \text{TiO}_2$ | 0 - 2 |

|  |         |
|--|---------|
| As <sub>2</sub> O <sub>3</sub>   | 0 - 1.5 |
| Sb <sub>2</sub> O <sub>3</sub>   | 0 - 1.5 |
| SnO <sub>2</sub>   | 0 - 1.5 |
| CeO <sub>2</sub>   | 0 - 1.5 |
| Cl <sup>-</sup>  | 0 - 1.5 |
| F <sup>-</sup>   | 0 - 1.5 |
| SO <sub>4</sub> <sup>2-</sup>  | 0 - 1.5 |
| with As <sub>2</sub> O <sub>3</sub> + Sb <sub>2</sub> O <sub>3</sub> + SnO <sub>2</sub> + CeO <sub>2</sub> | ≤ 1.5   |
| + Cl <sup>-</sup> + F <sup>-</sup> + SO <sub>4</sub> <sup>2-</sup>   |         |

10. Aluminoborosilicate glass according to at least one of Claims 1 to 9, characterized in that it is free of arsenic oxide and antimony oxide, apart from unavoidable impurities, and that it can be produced in a float plant.

11. Aluminoborosilicate glass according to at least one of Claims 1 to 10, which has a coefficient of thermal expansion  $\alpha_{20/300}$  of  $2.8 \times 10^{-6}/K - 3.6 \times 10^{-6}/K$ , a glass transition temperature Tg of  $> 700^\circ C$  and a density  $\rho$  of  $< 2.600 \text{ g/cm}^3$ .

12. Use of the aluminoborosilicate glass according to at least one of Claims 1 to 11 as substrate glass in display technology.

13. Use of the aluminoborosilicate glass according to at least one of Claims 1 to 11 as substrate glass in thin-film photovoltaics.